This listing of claims replaces all prior versions and listings of claims in the application:

Listing of Claims:

Claim 39. (Currently Amended). A method of manufacturing an endoluminal stent capable of radially expanding from a first diameter to a second diameter, and having a plurality of first structural elements defining a longitudinal axis of the stent and a plurality of second structural elements interconnecting adjacent pairs of first structural elements and defining a circumferential axis of the stent, comprising the steps of:

a. vacuum depositing a stent-forming metal onto an unpatterned, exterior surface of a generally cylindrical substrate under process conditions selected to control ~~that controls at least one of grain size and~~ formation of chemical and intra- and intergranular precipitates in the bulk material of a deposited generally tubular, unpatterned metal film;
b. defining the plurality of first and second structural elements of the endoluminal stent in the unpatterned metal film; and
c. removing the endoluminal stent from the generally cylindrical substrate.

Claim 40. (Previously presented) The method according to Claim 39, further comprising a step of depositing a sacrificial material layer onto the substrate prior to step (a) and removing the sacrificial material layer in order to remove the endoluminal stent from the substrate in step (c).

Claim 41. (Previously presented) The method according to Claim 39, wherein step (a) is conducted by ion beam-assisted evaporative deposition.

Claim 42. (Previously presented) The method according to Claim 39, wherein step (a) is conducted by sputtering.

Claim 43. (Previously presented) The method according to Claim 41, wherein the ion beam-assisted evaporative deposition is conducted in the presence of an inert gas.

Claim 44. (Previously presented) The method according to Claim 43, wherein the inert gas is selected from the group consisting of argon, xenon, nitrogen and neon.

Claim **45**. (Currently amended) The method according to Claim **39**, wherein the process condition controlled is deposition rate and the deposition rate is no less than about 20 nm/sec.

Claim **46**. (Previously presented) The method according to Claim **39**, wherein during the deposition of the stent-forming metal, the substrate is rotated.

Claim **47**. (Currently Amended) A method of manufacturing an endoluminal stent capable of radially expanding from a first diameter to a second diameter, and having a plurality of first structural elements defining a longitudinal axis of the stent and a plurality of second structural elements interconnecting adjacent pairs of first structural elements and defining a circumferential axis of the stent, comprising the steps of:

a. vacuum depositing nickel and titanium onto an exterior surface of a generally cylindrical substrate to form a generally tubular, film of nickel-titanium having no less than about 51.5 atomic percent nickel, the vacuum deposition occurring under process conditions ~~that control at least one of grain size and~~ selected to control formation of inter- and intra-granular precipitates in the bulk material of the nickel-titanium film; and
b. removing the endoluminal stent from the generally cylindrical substrate.

Claim **48**. (Previously presented) The method according to Claim **47**, wherein the generally tubular film of nickel-titanium has a composition of between about 51.5 and about 55.0 atomic percent nickel.

Claim **49**. (Previously presented) The method according to Claim **47**, wherein during the deposition of the nickel and titanium, the substrate is rotated.

Claim **50**. (Previously presented) The method according to Claim **47**, wherein a source of the nickel and the titanium to be deposited is a nickel-titanium alloy.

Claim **51**. (Previously presented) The method according to Claim **47**, wherein a source of the nickel and the titanium to be deposited is a binary nickel-titanium alloy.

Claim 52. (Previously presented) The method according to Claim 47, further comprising, prior to step (a), a step of imparting a pattern defining the first and second structural elements onto the exterior surface of the substrate, and wherein the pattern is transferred to the tubular film of nickel-titanium during step (a).

Claim 53. (Previously presented) The method according to Claim 47, further comprising a step of imparting a pattern defining the first and second structural elements onto the tubular film of nickel-titanium after step (a).

Claim 54-66: Cancelled.

Claim 67 (New) A method of manufacturing a medical device, comprising the steps of:

a. vacuum depositing a device-forming metal onto an unpatterned, exterior surface of a generally cylindrical substrate under process conditions selected to control formation of chemical and intra- and intergranular precipitates in the bulk material of a deposited generally tubular, unpatterned metal film; and
b. removing the deposited generally tubular metal film from the generally cylindrical substrate.

Claim 68. (New) The method according to Claim 67, further comprising a step of depositing a sacrificial material layer onto the substrate prior to step (a) and removing the sacrificial material layer in order to remove the endoluminal stent from the substrate in step (b).

Claim 69. (New) The method according to Claim 67, wherein step (a) is conducted by ion beam-assisted evaporative deposition.

Claim 70. (New) The method according to Claim 67, wherein step (a) is conducted by sputtering.

Claim 71. (New) The method according to Claim 69, wherein the ion beam-assisted evaporative deposition is conducted in the presence of an inert gas.

Claim 72. (New) The method according to Claim 71, wherein the inert gas is selected from the group consisting of argon, xenon, nitrogen and neon.

Claim 73. (New) The method according to Claim 67, wherein the process condition controlled is deposition rate and the deposition rate is no less than about 20 nm/sec.

Claim 74. (New) The method according to Claim 67, wherein during the deposition of the device-forming metal, the substrate is rotated.